

ABSTRACT OF THE DISCLOSURE

A variable-frequency inverter microwave oven and a method for controlling the same. The inverter microwave oven comprises a magnetron for generating electromagnetic waves, a direct current (DC) voltage generator for rectifying and smoothing a commercial alternating current (AC) voltage, which is an inverter drive voltage, to generate a DC voltage, and a switching device for performing a switching operation based on the DC voltage from the DC voltage generator to generate an AC voltage for the driving of the magnetron. The switching device includes a plurality of switches turned on/off in response to the DC voltage from the DC voltage generator. The microwave oven further comprises a variable-frequency controller for varying a switching frequency of the switching device according to the level of the DC voltage from the DC voltage generator to maintain the AC voltage from the switching device at a constant level, and a magnetron drive voltage generator for converting the AC voltage from the switching device into a high-power DC voltage and transferring the converted DC voltage to the magnetron to drive it. The inverter operation is improved compared with a conventional one and a magnetron drive duration is lengthened, thereby improving heating efficiency and operational reliability of the microwave oven.